

# CHAPTER 14

## LONG-TERM FINANCIAL LIABILITIES

### MULTIPLE CHOICE—Conceptual

Answer	No.	Description
a	1.	Liability identification.
b	2.	Bond vocabulary.
b	3.	Bond vocabulary.
c	4.	Bond vocabulary.
d	5.	Rate of interest earned by bondholders.
b	6.	Bond premium and interest rates.
a	7.	Interest and discount amortization.
d	8.	Effective interest amortization method.
d	9.	Impact of effective interest method.
c	10.	Bonds issued between interest dates.
d	11.	Bonds issued between interest dates.
b	12.	Valuation of bonds.
d	13.	Bond face value.
c	14.	Callable bonds.
b	15.	Notes with zero interest or non-monetary consideration.
c	16.	Fair value option.
d	17.	Early extinguishment of debt.
a	18.	Debt refunding.
b	19.	Note issued for property, goods, or services.
c	20.	Modification of terms in troubled debt restructuring.
d	21.	Gain/loss on troubled debt restructuring.
b	22.	Gain/loss on troubled debt restructuring.
c	23.	Creditor's calculations for modification of terms.
a	24.	In-substance defeasance.
d	25.	Off balance sheet financing.
b	26.	Long-term debt disclosures.
c	27.	Times interest earned ratio.
a.	28.	Debt to total assets ratio.
d	29.	Times interest earned ratio.
b	30.	Debt to total assets ratio.

## MULTIPLE CHOICE—Computational

Answer	No.	Description
a	31.	Calculate the present value of bond principal.
b	32.	Calculate the present value of bond interest.
a	33.	Calculate the issue price of bonds.
b	34.	Interest expense using effective interest method.
c	35.	Interest expense using effective interest method.
b	36.	Calculate gain on retirement of bonds.
a	37.	Calculate gain on retirement of bonds.
c	38.	Calculate loss on retirement of bonds.
b	39.	Bond retirement with call premium.
b	40.	Calculate loss on retirement of bonds.
a	41.	Interest on noninterest-bearing note.
c	42.	Interest on instalment note payable.
c	43.	Calculate balance of note payable.
d	44.	Calculate times interest earned ratio.
b	45.	Transfer of equipment in debt settlement.
d	46.	Recognizing gain on debt restructure.
b	47.	Interest and troubled debt restructuring.
c	48.	Calculate debt to total assets ratio.

## MULTIPLE CHOICE—CPA Adapted

Answer	No.	Description
c	49.	Calculate proceeds from bond issue.
b	50.	Calculate balance in bonds payable account.
c	51.	Calculate balance in bonds payable account.
b	52.	Calculate bond interest expense.
a	53.	Calculate loss on retirement of bonds.
d	54.	Calculate loss on retirement of bonds.
b	55.	Calculate gain on retirement of bonds.
c	56.	Calculate carrying value of bonds to be retired.
d	57.	Classification of gain from troubled debt restructuring.

## EXERCISES

Item	Description
E14-58	Terms related to long-term debt.
E14-59	Underwriting for bond issues.
E14-60	Amortization of discount or premium.
E14-61	Bond issue price and premium amortization.
E14-62	Entries for bonds payable.
E14-63	Sale and subsequent buyback of bonds.
E14-64	Note issued for cash and other rights.
E14-65	Note issued for non-cash consideration.
E14-66	Retirement of bonds.

E14-67	Early extinguishment of debt.
E14-68	Accounting for a troubled debt settlement.
E14-69	Accounting procedures for bond redemptions.
E14-70	Accounting for troubled debt restructuring.
E14-71	Accounting for troubled debt.

## PROBLEMS

<b>Item</b>	<b>Description</b>
P14-72	Bond interest and discount amortization.
P14-73	Bond interest and discount amortization.
P14-74	Entries for bonds payable.
P14-75	Entries for bonds payable.
P14-76	Accounting for a troubled debt settlement.
P14-77	Accounting for bond issuance and retirement.
P14-78	Bond accounting, ratios, debt covenants.

## MULTIPLE CHOICE—Conceptual

1. Which of the following is NOT generally classified as a long-term liability?
  - a. Stock dividends distributable.
  - b. Pension liabilities.
  - c. Mortgages payable.
  - d. Lease liabilities.
  
2. A contract representing the covenants and other terms of the agreement between the issuer of bonds and the lender is known as a
  - a. bond debenture.
  - b. bond indenture.
  - c. registered bond.
  - d. long term note payable.
  
3. The term used for bonds that are backed by collateral is
  - a. convertible bonds.
  - b. debenture bonds.
  - c. secured bonds.
  - d. callable bonds.
  
4. Bonds frequently used by schools and municipalities that mature in instalments are called
  - a. convertible bonds.
  - b. revenue bonds.
  - c. serial bonds.
  - d. callable bonds.
  
5. The rate of interest actually earned by bondholders is called the
  - a. stated rate.
  - b. coupon rate.
  - c. dividend rate.
  - d. effective yield or market rate.
  
6. Moss Corp issued ten year bonds with a maturity value of \$400,000. If the bonds were issued at a premium, this indicates that
  - a. the market rate was higher than the stated rate.
  - b. the stated rate was higher than the market rate.
  - c. the market and stated rates were the same.
  - d. no relationship exists between the two rates.

7. If bonds are initially sold at a discount and the straight-line method of amortization is used, interest expense in the earlier years will be
  - a. higher than it would have been had the effective interest method of amortization been used.
  - b. less than it would have been had the effective interest method of amortization been used.
  - c. the same as it would have been had the effective interest method of amortization been used.
  - d. less than the stated rate of interest.
8. Using the effective interest method of bond discount or premium amortization, the periodic interest expense is equal to the
  - a. stated rate of interest multiplied by the face value of the bonds.
  - b. market rate of interest multiplied by the face value of the bonds.
  - c. stated rate multiplied by the beginning-of-period carrying value of the bonds.
  - d. market rate multiplied by the beginning-of-period carrying value of the bonds.
9. When the effective interest method is used to amortize bond premium or discount, the periodic amortization will
  - a. increase if the bonds were issued at a discount.
  - b. decrease if the bonds were issued at a premium.
  - c. increase if the bonds were issued at a premium.
  - d. increase if the bonds were issued at either a discount or a premium.
10. If bonds are issued between interest dates, the entry on the books of the issuing corporation could include a
  - a. debit to Interest Payable.
  - b. credit to Interest Receivable.
  - c. credit to Interest Expense.
  - d. credit to Unearned Interest.
11. When the interest payment dates of a bond are May 1 and November 1, and a bond issue is sold on June 1, the amount of cash received by the issuer will be
  - a. decreased by accrued interest from June 1 to November 1.
  - b. decreased by accrued interest from May 1 to June 1.
  - c. increased by accrued interest from June 1 to November 1.
  - d. increased by accrued interest from May 1 to June 1.
12. How should a long term bond initially be valued?
  - a. At the future value of the future cash flows.
  - b. At the present value of the future cash flows.
  - c. At the present value of the interest to be paid.
  - d. At the maturity value of the bond.

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13. A bond's face value is also called
  - a. the par value or the present value.
  - b. the principal amount or the present value.
  - c. the future value or the maturity value.
  - d. the par value or the maturity value.
  
14. A ten-year bond was issued in 2010 at a discount with a call provision to retire the bonds. When the bond issuer exercised the call provision on an interest date in 2012, the carrying value of the bond was less than the call price. The amount of bond liability removed from the accounts in 2012 would be the
  - a. call price.
  - b. maturity value.
  - c. carrying value.
  - d. face amount plus unamortized discount.
  
15. If a long-term note is issued with zero interest or for non-monetary consideration,
  - a. the debtor must first try to value the non-monetary asset(s) involved in the transaction.
  - b. a reasonable interest rate must be imputed.
  - c. the debtor always tries to create a gain with such a transaction.
  - d. the note is a non-monetary liability.
  
16. When valuing financial instruments at fair value (the fair value option),
  - a. Private entity GAAP allows this option only for certain financial instruments.
  - b. IFRS allows this for all financial instruments.
  - c. IFRS requires that this option be used only where fair value results in more relevant information.
  - d. this is only allowed for long term bonds.
  
17. An early extinguishment of bonds payable, which were originally issued at a premium, is made by purchasing the bonds between interest dates. At the time of reacquisition
  - a. any deferred bond issue costs must be amortized up to the purchase date.
  - b. the premium must be amortized up to the purchase date.
  - c. interest must be accrued from the last interest date to the purchase date.
  - d. all of these statements are correct.
  
18. If a debt refunding is viewed as a modification or renegotiation, then
  - a. a new effective interest rate is calculated.
  - b. a gain or loss is recorded.
  - c. there is no change in the accounting for the debt.
  - d. the old debt is derecognized.
  
19. When a note payable is issued for property, goods, or services, the present value of the note is measured by
  - a. the present value of the property, goods or services.
  - b. the fair value of the property, goods, or services.
  - c. the fair value of the debt instrument.
  - d. any of the above.

20. In a troubled debt restructuring in which the debt is continued with modified terms and the carrying amount of the debt is less than the total future cash flows,
- an extraordinary gain should be recognized by the debtor.
  - a gain should be recognized by the debtor.
  - a new effective interest rate must be calculated.
  - no interest expense or revenue should be recognized in the future.
21. A troubled debt restructuring will generally result in a
- loss by the debtor and a gain by the creditor.
  - loss by both the debtor and the creditor.
  - gain by both the debtor and the creditor.
  - gain by the debtor and a loss by the creditor.
22. In a troubled debt restructuring in which the debt is settled by a transfer of assets with a fair market value less the carrying amount of the debt, the debtor would recognize
- no gain or loss on the settlement.
  - a gain on the settlement.
  - a loss on the settlement.
  - none of the above.
23. In a troubled debt restructuring in which the debt is continued with modified terms and the carrying amount of the debt is less than the total future cash flows, the creditor should
- calculate a new effective interest rate.
  - not recognize a loss.
  - calculate its loss using the historical effective rate of the loan.
  - calculate its loss using the current effective rate of the loan.
24. When the debtor sets aside money in a trust such that the investment and any return will be sufficient to pay the principal and the interest to the creditor, but the creditor does not release the company from the primary obligation to settle the debt, this type of arrangement is known as
- in-substance defeasance.
  - in-substance refunding.
  - substantive repayment.
  - legal defeasance.
25. Which of the following arrangements may represent a possible example of “off-balance-sheet financing”?
- Non-consolidated subsidiaries.
  - Variable interest entities.
  - Operating leases.
  - All of the above.
26. Note disclosures for long-term debt generally include all of the following except
- assets pledged as security.
  - names of specific creditors.
  - restrictions imposed by creditors.
  - call provisions and conversion privileges.

27. The times interest earned ratio is calculated by dividing
- net income by interest expense.
  - income before taxes by interest expense.
  - income before income taxes and interest expense by interest expense.
  - net income and interest expense by interest expense.
28. The debt to total assets ratio is calculated by dividing
- total liabilities by total assets.
  - long-term liabilities by total assets.
  - current liabilities by total assets.
  - total assets by total liabilities.
29. The times interest earned ratio measures
- the amount of interest expense related to long term debt.
  - the percentage of total assets financed by creditors.
  - the profitability of an enterprise.
  - an enterprise's ability to meet interest payments as they come due.
30. The debt to total assets earned ratio measures
- the amount of debt related to interest expense.
  - the percentage of total assets financed by creditors.
  - the likelihood an enterprise will default on its obligations.
  - the profitability of an enterprise.

**Multiple Choice Answers—Conceptual**

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
1.	a	6.	b	11.	d	16.	c	21.	d	26.	b
2.	b	7.	a	12.	b	17.	d	22.	b	27.	c
3.	b	8.	d	13.	d	18.	a	23.	c	28.	a
4.	c	9.	d	14.	c	19.	b	24.	a	29.	d
5.	d	10.	c	15.	b	20.	c	25.	d	30.	b



**MULTIPLE CHOICE—Computational**

Use the following information for questions 31 through 33:

On January 1, 2011, Schweb Co. issued eight-year 6% bonds with a face value of \$500,000, with interest payable semi-annually on June 30 and December 31. The bonds were sold to yield 8%. Table values are:

Present value of 1 for 8 periods at 6%	.627
Present value of 1 for 8 periods at 8%	.540
Present value of 1 for 16 periods at 3%	.623
Present value of 1 for 16 periods at 4%	.534
Present value of annuity for 8 periods at 6%	6.210
Present value of annuity for 8 periods at 8%	5.747
Present value of annuity for 16 periods at 3%	12.561
Present value of annuity for 16 periods at 4%	11.652

31. The present value of the principal is
- \$267,000.
  - \$270,000.
  - \$311,500.
  - \$313,500.
32. The present value of the interest is
- \$172,410.
  - \$174,780.
  - \$186,300.
  - \$188,415.
33. The issue price of the bonds is
- \$441,780.
  - \$442,410.
  - \$444,780.
  - \$499,800.
34. On January 1, 2011, Hartman Ltd sold five year, 12% bonds with a face value of \$500,000. Interest will be paid semi-annually on June 30 and December 31. The bonds were sold for \$538,500 to yield 10%. Using the effective interest method of amortization of bond discount or premium, interest expense for 2011 is
- \$50,000.
  - \$53,696.
  - \$53,850.
  - \$60,000.

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35. On January 2, 2011, Portland Ltd sold five year, 8% bonds with a face value of \$900,000. Interest will be paid semi-annually on June 30 and December 31. The bonds were sold for \$830,400 to yield 10%. Using the effective interest method of amortization of bond discount or premium, interest expense for 2011 is
- \$72,000.
  - \$83,040.
  - \$83,316.
  - \$90,000.
36. The December 31, 2011, balance sheet of Alberta Corporation includes the following
- 9% bonds payable due December 31, 2020      \$718,900

The bonds have a face value of \$700,000, and were issued on December 31, 2010, at 103, with interest payable on July 1 and December 31 of each year. Alberta uses straight-line amortization to amortize bond premium or discount. On March 1, 2012, Alberta retired \$280,000 of these bonds at 98 plus accrued interest. Ignoring income taxes, what should Alberta record as a gain on retirement of these bonds?

- \$ 7,560.
  - \$13,020.
  - \$13,160.
  - \$14,000.
37. On January 1, 2011, Fernie Corp issued \$900,000 (face value), 10%, ten-year bonds at 103. The bonds are callable at 105. Fernie has recorded amortization of the bond premium by the straight-line method (which was not materially different from the effective interest method).  
On December 31, 2017, Fernie repurchased \$200,000 of the bonds in the open market at 96. Bond interest expense and premium amortization have been recorded for 2017. Ignoring income taxes, what is the loss or gain arising from this reacquisition?
- A gain of \$9,800.
  - A loss of \$9,800.
  - A gain of \$12,200.
  - A loss of \$12,200.
38. At December 31, 2011, the 10% bonds payable of Red Deer Inc had a carrying value of \$380,000. The bonds, which had a face value of \$400,000, were issued at a discount to yield 12%. The amortization of the bond discount had been recorded using the effective interest method. Interest was being paid on January 1 and July 1 of each year.  
The July 1, 2012 interest payment and discount amortization had been correctly recorded. On July 2, 2012, Red Deer retired the bonds at 102. Ignoring income taxes, what is the loss that should be recorded on the early retirement of the bonds?
- \$ 8,000.
  - \$22,400.
  - \$25,200.
  - \$28,000.

39. A corporation called an outstanding bond obligation four years before maturity. At that time there was an unamortized discount of \$200,000. To extinguish this debt, the company had to pay a call premium of \$75,000. Ignoring income tax considerations, how should these amounts be treated for accounting purposes?
- Amortize \$275,000 over four years.
  - Record a \$275,000 loss in the year of extinguishment.
  - Record a \$75,000 loss in the year of extinguishment and amortize \$200,000 over four years.
  - Either amortize \$275,000 over four years or record a \$275,000 loss immediately, whichever management selects.
40. At December 31, 2011, the 12% bonds payable of Kingston Corp. had a carrying value of \$312,000. The bonds, which had a face value of \$300,000, were issued at a premium to yield 10%. Kingston uses the effective interest method of amortization of bond premium. Interest is paid on June 30 and December 31. On June 30, 2012, several years before their maturity, Kingston retired the bonds at 104 plus accrued interest. The loss on retirement, ignoring taxes, is
- \$ 0.
  - \$ 2,400.
  - \$ 3,720.
  - \$12,000.
41. On January 1, 2011, Susan Smithers lent \$30,052 to Ben Brandon. A zero-interest-bearing note (face amount, \$40,000) was exchanged solely for cash; no other rights or privileges were exchanged. The note is to be repaid on December 31, 2013. The market rate of interest for a loan of this type is 10%. To the nearest dollar, and using the effective interest method, how much interest revenue should Ms. Smithers recognize in 2011?
- \$ 3,005.
  - \$ 4,000.
  - \$ 9,015.
  - \$12,000.
42. On January 1, 2011, Wall Company sold property to Mart Company, for which Wall had originally paid \$570,000. There was no established exchange price for this property. Mart gave Wall a \$900,000, zero-interest-bearing note, payable in three equal annual instalments of \$300,000, with the first payment due December 31, 2011. The note also has no ready market. The market rate of interest for a note of this type is 10%. The present value of a \$900,000 note payable in three equal annual instalments of \$300,000 at 10% is \$746,100. To the nearest dollar, and using the effective interest method, how much interest revenue should Wall Company recognize in 2011?
- \$ 0.
  - \$30,000.
  - \$74,610.
  - \$90,000.

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43. On January 1, 2011, Queen Ltd sold property to King Company. There was no established exchange price for the property, and King gave Queen a \$3,000,000, zero-interest-bearing note payable in five equal annual instalments of \$600,000, with the first payment due December 31, 2011. The market rate of interest for a note of this type is 9%. The present value of the note at 9% was \$2,163,000 at January 1, 2011. What should be the balance of the Note Payable to Queen Ltd account on King's December 31, 2011 adjusted trial balance, assuming that the effective interest method is used?
- a. \$1,968,330.
  - b. \$2,163,000.
  - c. \$2,357,600.
  - d. \$3,000,000.

44. Continental Company's 2012 financial statements contain the following selected data:

Income tax expense	\$40,000
Interest expense	10,000
Net income	80,000

Continental's times interest earned for 2012 is

- a. 8 times.
- b. 11 times.
- c. 12 times.
- d. 13 times.

Use the following information for questions 45 through 47:

On December 31, 2010, Diaz Corp. is in financial difficulty and cannot pay a \$900,000 note with \$90,000 accrued interest payable to Cameron Ltd, which is now due. Cameron agrees to accept from Diaz equipment that has a fair value of \$435,000, an original cost of \$720,000, and accumulated depreciation of \$345,000. Cameron also forgives the accrued interest, extends the maturity date to December 31, 2013, reduces the face amount of the note to \$375,000, and reduces the interest rate to 6%, with interest payable at the end of each year.

45. Diaz should recognize a gain or loss on the transfer of the equipment of
- a. \$0.
  - b. \$60,000 gain.
  - c. \$90,000 gain.
  - d. \$285,000 loss.
46. Diaz should recognize a gain on the partial settlement and restructure of the debt of
- a. \$0.
  - b. \$22,500.
  - c. \$112,500.
  - d. \$180,000.
47. Diaz should record interest expense for 2013 of
- a. \$0.
  - b. \$22,500.
  - c. \$45,000.
  - d. \$67,500.

48. Granger Ltd reported the following information on their most recent balance sheet:

Current assets	\$200,000
Total assets	797,000
Current liabilities	160,000
Total equity	350,000

To the nearest percent, what is Granger's debt to total assets?

- a. 20%.
- b. 44%.
- c. 56%.
- d. 80%.

**Multiple Choice Answers—Computational**

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
31.	a	34.	b	37.	a	40.	b	43.	c	46.	d
32.	b	35.	c	38.	c	41.	a	44.	d	47.	b
33.	a	36.	b	39.	b	42.	c	45.	b	48.	c

**MULTIPLE CHOICE—CPA Adapted**

49. On July 1, 2011, Petunia Corp. issued \$300,000, 8% bonds at 99 plus accrued interest. The bonds are dated April 1, 2011 and mature on April 1, 2021. Interest is payable semi-annually on April 1 and October 1. How much did Petunia receive from the bond issuance?
- \$297,000
  - \$300,000
  - \$303,000
  - \$309,000
50. On January 1, 2011, Violet Ltd. issued \$4,000,000, 10% bonds, which mature on January 1, 2021. The bonds were issued for \$4,540,000 to yield 8%. Violet uses the effective interest method of amortizing bond premium. Interest is payable annually on December 31. At December 31, 2011, the adjusted balance in the Bonds Payable account should be
- \$4,540,000.
  - \$4,503,200.
  - \$4,486,000.
  - \$4,000,000.
51. On July 1, 2011, Iris Inc. issued \$1,000,000, 9% bonds, which mature on July 1, 2021. The bonds were issued for \$939,000 to yield 10%. Iris uses the effective interest method of amortizing bond discount. Interest is payable annually on June 30. At June 30, 2013, the adjusted balance in the Bonds Payable account should be
- \$1,000,000.
  - \$ 987,800.
  - \$ 947,190.
  - \$ 942,900.
52. On January 1, 2011, Moon Corp. sold \$500,000, 10% bonds for \$442,648 to yield 12%. Interest is payable semi-annually on January 1 and July 1. What amount should Moon report as interest expense for the six months ended June 30, 2011?
- \$30,000.
  - \$26,559.
  - \$25,000.
  - \$22,133.
53. On January 1, 2011, McMouse Inc. redeemed its 15-year, \$900,000 par value bonds at 102. They were originally issued on January 1, 1999 at 98 with a maturity date of January 1, 2014. The bond issue costs relating to this transaction were \$54,000. McMouse amortizes discounts, premiums, and bond issue costs using the straight-line method. Ignoring income taxes, what amount of loss should McMouse recognize on the redemption of these bonds?
- \$32,400.
  - \$21,600.
  - \$18,000.
  - \$ 0.

54. On its December 31, 2011 balance sheet, Wong Ltd. reported bonds payable of \$2,000,000 and related unamortized bond issue costs of \$80,000. The bonds had been issued at par. On January 2, 2012, Wong retired one half of the outstanding bonds at par plus a call premium of \$35,000. Ignoring income taxes, what amount should Wong report on its 2012 income statement as loss on extinguishment of debt?
- \$ 0.
  - \$35,000.
  - \$40,000.
  - \$75,000.
55. On January 1, 2010, Jackson Corp. issued \$2,000,000, 10% bonds for \$2,080,000. These bonds were to mature on January 1, 2020 but were callable at 101 any time after December 31, 2010. Interest was payable semi-annually on July 1 and January 1. On July 1, 2015, Jackson called all of the bonds and retired them. Bond premium was amortized on a straight-line basis. Ignoring income taxes, Jackson's gain or loss in 2015 on this early extinguishment of debt was
- \$16,000 loss.
  - \$16,000 gain.
  - \$20,000 loss.
  - \$24,000 gain.
56. On July 1, 2011, Gordon Corp. had outstanding 8%, \$1,000,000, 15-year bonds maturing on June 30, 2021. Interest is payable semi-annually on June 30 and December 31. The carrying value of the bond at June 30, 2011 was \$965,000. As well, Gordon had deferred bond issue costs of \$10,000. At this time, Gordon purchased all the bonds at 94 and retired them. Assume all appropriate entries had been prepared and posted at June 30. What carrying value should be used to calculate any gain or loss on this early extinguishment of debt?
- \$990,000.
  - \$965,000.
  - \$955,000.
  - \$940,000.
57. Pineapple owes Dole a \$600,000, 12%, three-year note dated December 31, 2009. Pineapple has been experiencing financial difficulties, and still owes accrued interest of \$72,000 on this note at December 31, 2011. Under a troubled debt restructuring, on December 31, 2011, Dole agrees to settle the note plus the accrued interest for land that Pineapple owns, which has a fair value of \$540,000. Pineapple's original cost of the land is \$435,000. Ignoring income taxes, on its 2011 income statement, what should Pineapple report as a result of the troubled debt restructuring?
- |    | Gain on<br><u>Disposition of Land</u> | Gain on<br><u>Restructuring of Debt</u> |
|----|---------------------------------------|---|
| a. | \$237,000                             | \$0                                     |
| b. | \$165,000                             | \$0                                     |
| c. | \$105,000                             | \$60,000                                |
| d. | \$105,000                             | \$132,000                               |

**Multiple Choice Answers—CPA Adapted**

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
49.	c	51.	c	53.	a	55.	b	57.	d
50.	b	52.	b	54.	d	56.	c		

Answers



**DERIVATIONS—Computational**

No.	Answer	Derivation																				
31.	a	$\$500,000 \times .534 = \$267,000.$																				
32.	b	$(\$500,000 \times .03) \times 11.652 = \$174,780.$																				
33.	a	$\$267,000 + \$174,780 = \$441,780.$																				
34.	b	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Interest June 30</td> <td style="width: 20%;"><math>\\$538,500 \times .05</math></td> <td style="width: 10%; text-align: right;">=</td> <td style="width: 10%; text-align: right;">\$26,925</td> </tr> <tr> <td>Amortization of premium</td> <td><math>\\$30,000 - \\$26,925 = \\$3,075</math></td> <td></td> <td></td> </tr> <tr> <td>CV is now</td> <td><math>\\$538,500 - \\$3,075 = \\$535,425</math></td> <td></td> <td></td> </tr> <tr> <td>Interest Dec 31</td> <td><math>\\$535,425 \times .05</math></td> <td style="text-align: right;">=</td> <td style="text-align: right;"><u>\$26,771</u></td> </tr> <tr> <td>Total interest for 2011</td> <td></td> <td></td> <td style="text-align: right;"><u>\$53,696</u></td> </tr> </table>	Interest June 30	$\$538,500 \times .05$	=	\$26,925	Amortization of premium	$\$30,000 - \$26,925 = \$3,075$			CV is now	$\$538,500 - \$3,075 = \$535,425$			Interest Dec 31	$\$535,425 \times .05$	=	<u>\$26,771</u>	Total interest for 2011			<u>\$53,696</u>
Interest June 30	$\$538,500 \times .05$	=	\$26,925																			
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35.	c	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Interest June 30</td> <td style="width: 20%;"><math>\\$830,400 \times .05</math></td> <td style="width: 10%; text-align: right;">=</td> <td style="width: 10%; text-align: right;">\$41,520</td> </tr> <tr> <td>Amortization of discount</td> <td><math>\\$41,520 - \\$36,000 = \\$5,520</math></td> <td></td> <td></td> </tr> <tr> <td>CV is now</td> <td><math>\\$830,400 + \\$5,520 = \\$835,920</math></td> <td></td> <td></td> </tr> <tr> <td>Interest Dec 31</td> <td><math>\\$835,920 \times .05</math></td> <td style="text-align: right;">=</td> <td style="text-align: right;"><u>41,796</u></td> </tr> <tr> <td>Total interest for 2011</td> <td></td> <td></td> <td style="text-align: right;"><u>\$83,316</u></td> </tr> </table>	Interest June 30	$\$830,400 \times .05$	=	\$41,520	Amortization of discount	$\$41,520 - \$36,000 = \$5,520$			CV is now	$\$830,400 + \$5,520 = \$835,920$			Interest Dec 31	$\$835,920 \times .05$	=	<u>41,796</u>	Total interest for 2011			<u>\$83,316</u>
Interest June 30	$\$830,400 \times .05$	=	\$41,520																			
Amortization of discount	$\$41,520 - \$36,000 = \$5,520$																					
CV is now	$\$830,400 + \$5,520 = \$835,920$																					
Interest Dec 31	$\$835,920 \times .05$	=	<u>41,796</u>																			
Total interest for 2011			<u>\$83,316</u>																			
36.	b	$\left[ \$718,900 - \left( \frac{\$18,900}{18} \times \frac{2}{6} \right) \right] \times .4 = \$287,420 \text{ (CV of retired bonds)}$ $\$287,420 - (\$280,000 \times .98) = \$13,020.$																				
37.	a	$\left[ \$900,000 \times 1.03 - \left( \frac{\$27,000}{10} \times 7 \right) \right] \times 2/9 = \$201,800 \text{ (CV of retired bonds)}$ $\$201,800 - (\$200,000 \times .96) = \$9,800.$																				
38.	c	$(\$380,000 \times 1.06) - (\$400,000 \times .05) = \$382,800 \text{ (CV of bonds)}$ $\$382,800 - (\$400,000 \times 1.02) = \$25,200.$																				
39.	b	$\$200,000 + \$75,000 = \$275,000.$																				
40.	b	$(\$312,000 - [(\$300,000 \times .06) - (\$312,000 \times .05)]) = \$309,600 \text{ (CV of bonds)}$ $(\$300,000 \times 1.04) - \$309,600 = \$2,400.$																				
41.	a	$\$30,052 \times .10 = \$3,005.$																				
42.	c	$\$746,100 \times .10 = \$74,610.$																				
43.	c	$\$2,163,000 \times 1.09 = \$2,357,600.$																				

44. d  $\frac{\$80,000 + \$40,000 + \$10,000}{\$10,000} = 13 \text{ times.}$
45. b  $\$435,000 - (\$720,000 - \$345,000) = \$60,000.$
46. d  $(\$900,000 + \$90,000) - (\$435,000 + \$375,000) = \$180,000.$
47. b  $\$375,000 \times .06 = \$22,500.$
48. c Total liabilities =  $\$797,000 - \$350,000 = \$447,000$   
 Debt to total assets =  $\$447,000 / \$797,000 \times 100 = 56\%$

### DERIVATIONS—CPA Adapted

**No. Answer Derivation**

49. c  $(\$300,000 \times .99) + (\$300,000 \times .08 \times 3/12) = \$303,000.$
50. b Amortization of premium  $\$400,000 - (\$4,540,000 \times .08) = \$36,800$   
 CV is  $\$4,540,000 - \$36,800 = \$4,503,200.$
51. c 2011-2012: CV is  $\$939,000 + [(\$939,000 \times .1) - \$90,000] = \$942,900.$   
 2012-2013: CV is  $\$942,900 + [(\$942,900 \times .1) - \$90,000] = \$947,190.$
52. b  $\$442,648 \times .06 = \$26,559.$
53. a  $(\$900,000 \times 1.02) - \left[ \$828,000 + \left( \frac{\$72,000}{15} \times 12 \right) \right] = \$32,400.$
54. d  $(\$1,000,000 + \$35,000) - [(\$2,000,000 - \$80,000) \times \frac{1}{2}] = \$75,000.$
55. b  $\left[ \$2,080,000 - \left( \frac{\$80,000}{20} \times 11 \right) \right] - (\$2,000,000 \times 1.01) = \$16,000.$
56. c  $\$965,000 - \$10,000 = \$955,000.$
57. d  $\$540,000 - \$435,000 = \$105,000$   
 $(\$600,000 + \$72,000) - \$540,000 = \$132,000.$

## EXERCISES

**Ex. 14-58**—Terms related to long-term debt.

Place the letter of the best matching phrase before each term.

- |                              |                                      |
|------------------------------|--------------------------------------|
| _____ 1. Bond indenture      | _____ 6. Times interest earned ratio |
| _____ 2. Bearer bonds        | _____ 7. Perpetual bonds             |
| _____ 3. Bonds issued at par | _____ 8. Premium on bonds            |
| _____ 4. Carrying value      | _____ 9. Callable bonds              |
| _____ 5. Nominal rate        | _____ 10. Market rate                |

- a. Bonds having unusually long terms.
- b. Rate set by party issuing the bonds which appears on the bond instrument.
- c. The stated interest rate is the same as the effective interest at date of issuance.
- d. Rate of interest actually earned by the bondholders.
- e. Results when bonds are sold below par.
- f. Results when bonds are sold above par.
- g. Bonds not recorded in the holder's name; can be easily transferred from one party to another.
- h. Give the issuer the right to call in and retire bonds before maturity.
- i. Maturity value of bonds less any discount or plus any premium at any given date.
- j. Ratio of current assets to current liabilities.
- k. The bond contract or agreement.
- l. Indicates the company's ability to meet interest payments as they come due.
- m. Ratio of debt to equity.

**Solution 14-58**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. k | 3. c | 5. b | 7. a | 9. h  |
| 2. g | 4. i | 6. l | 8. f | 10. d |

**Ex. 14-59**—Underwriting for bond issues.

Explain the difference between firm underwriting and best efforts underwriting.

**Solution 14-59**

With firm underwriting, an investment bank or brokerage will underwrite a bond issue by guaranteeing a specified amount to the bond issuer. Thus the broker assumes the risk of selling the bonds for whatever they can get.

With best efforts underwriting, on the other hand, the agent (broker) will sell the bond issue for a commission that will be deducted from the sale proceeds.

**Ex. 14-60**—Amortization of discount or premium.

Sedge Industries Ltd. issued \$2,000,000, 8% bonds on May 1, 2011 and received cash proceeds of \$1,774,526. The bonds pay interest semi-annually on May 1 and November 1. The maturity date on these bonds is November 1, 2023. Sedge uses the effective interest method of amortizing bond discounts and premiums. The bonds were sold to yield an effective interest rate of 10%.

**Instructions**

Calculate the total dollar amount of discount or premium amortization during the first year (May 1, 2011 through April 30, 2012) these bonds were outstanding. Show calculations and round all values to the nearest dollar.

**Solution 14-60**

<u>Date</u>	<u>Interest Expense</u>	<u>Cash Interest</u>	<u>Discount Amortized</u>	<u>Carrying Value of Bonds</u>
May 1/11				\$1,774,526
Nov 1/11	\$88,726	\$80,000	\$ 8,726	1,783,252
May 1/12	89,163	80,000	9,163	1,792,415
		Total	<u>\$17,889</u>	

**Ex. 14-61**—Bond issue price and premium amortization.

On January 1, 2011, Moffat Corp. issued ten-year, 10% bonds with a face value of \$500,000, with interest payable semi-annually on June 30 and December 31. The bonds were sold to yield 12%. Table values are:

Present value of 1 for 10 periods at 10%	.386
Present value of 1 for 10 periods at 12%	.322
Present value of 1 for 20 periods at 5%	.377
Present value of 1 for 20 periods at 6%	.312
Present value of annuity for 10 periods at 10%	6.145
Present value of annuity for 10 periods at 12%	5.650
Present value of annuity for 20 periods at 5%	12.462
Present value of annuity for 20 periods at 6%	11.470

**Instructions**

- Calculate the issue price of the bonds.
- Independent of your solution to part (a), assume that the issue price was \$442,000. Prepare the amortization table for 2011, assuming that amortization is recorded on interest payment dates.

**Solution 14-61**

(a)  $.312 \times \$500,000 = \$156,000$   
 $11.470 \times \$25,000 = \underline{286,750}$   
\$442,750

(b) <u>Date</u>	<u>Cash</u>	<u>Expense</u>	<u>Amortization</u>	<u>Carrying Amount</u>
Jan 1/11				\$442,000
June 30/11	\$25,000	\$26,520	\$1,520	443,520
Dec 31/11	25,000	26,611	1,611	445,131

**Ex. 14-62**—Entries for Bonds Payable.

**Instructions**

Prepare journal entries to record the following transactions related to Euro Ltd's long-term bonds.

- (a) On April 1, 2010, Euro issued \$600,000, 9% bonds (dated January 1, 2010) for \$645,442 including accrued interest. Interest is payable annually on January 1, and the bonds mature on January 1, 2020.
- (b) On July 1, 2012, Euro retired \$180,000 of the bonds at 102 plus accrued interest. Euro uses straight-line amortization.

**Solution 14-62**

(a)	Cash .....	645,442	
	Bonds Payable .....		631,942
	Interest Expense ( $\$600,000 \times 9\% \times 3/12$ ).....		13,500
(b)	Interest Expense .....	7,609	
	Bonds Payable ( $\$31,942 \times .3 \times 6/117$ ) .....	491	
	Cash ( $\$180,000 \times 9\% \times 6/12$ ).....		8,100
	Bonds Payable .....	187,371	
	Cash .....		183,600
	Gain on Redemption of Bonds .....		3,771

(Premium  $\$31,942 \times .3 \times 90/117 = \$7,371$ )

**Ex. 14-63**—Sale and subsequent buyback of bonds.

On July 1, 2011, Markov Corp. issued \$400,000 par value, 10%, 10-year bonds dated July 1, 2011, with interest payable semi-annually on January 1 and July 1. The bonds were issued for \$454,361. On January 1, 2013, Markov offered to buy back the bonds for 4 points above the market value of the bond, which was 99 at that date, i.e., at 103. Forty percent of the bondholders accepted the offer. Markov uses the effective interest method of amortizing premium or discount.

**Instructions**

- (a) Prepare the journal entry to record the bond issuance.
- (b) Prepare the adjusting entry at December 31, 2011, the end of the fiscal year.
- (c) Prepare the entry for the interest payment on January 1, 2012.
- (d) Record the retirement of the bonds on January 1, 2013.

**Solution 14-63**

First you need to solve for the yield, which gives 8%.

PV 454,361 N 20 PMT (20,000) CPT I => 8%

Year	Interest Payment	Interest expense	Premium Amortization	Carrying Value
Jul 1/11				454,361
Jan 1/12	20,000	18,174	1,826	452,535
Jul 1/12	20,000	18,101	1,899	450,636
Jan 1/13	20,000	18,025	1,975	448,661

(a)	Cash.....	454,361	
	Bonds Payable .....		454,361
(b)	Interest Expense.....	18,174	
	Bonds Payable.....	1,826	
	Interest Payable .....		20,000
	(Interest expense: $\$454,361 \times .08 \times \frac{1}{2} = \$18,174$ )		
(c)	Interest Payable.....	20,000	
	Cash .....		20,000
(d)	Bonds Payable (448,661 x 40%).....	179,464	
	Cash .....		164,800
	Gain on Redemption of Bonds .....		14,664

Bond retirement price =  $400,000 \times 1.03 \times 40\% = 164,800$

**Ex. 14-64**—Note issued for cash and other rights.

Rebecca Land Corp. issued a 5-year, zero-interest-bearing note with a \$1,000,000 face value to Lindsay Inc. for \$1,000,000 cash. Rebecca also gave Lindsay the right to use a parcel of land for equipment storage for 5 years. Interest rates for notes of this type were 8% at the time of issue.

**Instructions**

Prepare the journal entries to record the issuance of the note by (1) Rebecca and (2) Lindsay.

**Solution 14-64**

Rebecca

Cash .....	1,000,000	
Notes Payable .....		* 680,500
Unearned Revenue (Rent) .....		319,420

Lindsay

Notes Receivable .....	* 680,500	
Prepaid Rent .....	319,420	
Cash .....		1,000,000

\$680,580 is the present value of \$1,000,000 at 8% for 5 years

**Ex. 14-65**—Note issued for non-cash consideration.

On July 1, 2011, Antrim Holdings Ltd. issued a \$100,000 face value note due June 30, 2014 with a stated interest rate of 4% to BestBiz Consultants in return for consulting services provided in 2011. The value of the consulting services is not readily determinable and the note is not readily marketable. On the basis of a credit analysis, a fair imputed interest rate would be 12%.

**Instructions**

Prepare the journal entry to record the issuance of the note by Antrim.

**Solution 14-65**

Operating (consulting) Expense .....	80,785	
Notes Payable .....		80,785

PV of \$100,000 due in 3 years at 12% (.71178 × \$100,000)	71,178	
PV of \$4,000 annual interest (2.40183 × \$4,000)	9,607	
PV of note	80,785	

OR N 3 %i 12 FV 100000 CPT PV

## 14- 24 Test Bank for Intermediate Accounting, Ninth Canadian Edition

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### Ex. 14-66—Retirement of bonds.

The December 31, 2010 balance sheet of Toews Corp. included the following items:

7.5% bonds payable due December 31, 2018                      \$576,000

The bonds have a face value of \$600,000, and were issued on December 31, 2008 at 95. Interest is payable semi-annually on June 30 and December 31. The company uses straight-line amortization.

On April 1, 2011, Toews retired \$120,000 of these bonds at 101 plus accrued interest.

### Instructions

Prepare journal entries to record the retirement. Show calculations and round values to the nearest dollar.

### Solution 14-66

Interest Expense .....	2,400	
Cash ( $\$120,000 \times 7.5\% \times 3/12$ ).....		2,250
Bonds Payable ( $\$24,000 \times 1/5 \times 1/8 \times 3/12$ ).....		150
Bonds Payable .....	* 115,350	
Loss on Redemption of Bonds.....	5,850	
Cash.....		121,200

\*  $\$120,000$  less discount of  $[(1/5 \times \$24,000) - \$150] = \$4,650$

### Ex. 14-67—Early extinguishment of debt.

On August 1, 2009, Shakespeare Inc sold 8%, five year bonds with a maturity value of \$1,000,000 for \$982,000. Interest on the bonds is payable semi-annually on August 1 and February 1. The bonds are callable at 104 at any time after August 1, 2011. By October 1, 2011, the market rate of interest had declined and the market price of Shakespeare's bonds had risen to 102. The company decides to refund the bonds by selling a new 6% bond issue to mature in five years. Shakespeare begins to reacquire its 8% bonds in the market and is able to purchase \$300,000 worth at 102. The remainder of the outstanding bonds are acquired by exercising the bonds' call feature.

### Instructions

How much is Shakespeare's total gain or loss in reacquiring its 8% bonds? Assume the company uses straight-line amortization. Show calculations.



**Solution 14-67**

Reacquisition price:			
\$300,000 × 1.02 =	\$306,000		
\$700,000 × 1.04 =	<u>728,000</u>	\$1,034,000	
Less carrying value:			
\$982,000 + (\$18,000 × 26/60) =		<u>989,800</u>	
Loss on redemption			<u>\$ 44,200</u>

**Ex. 14-68**—Accounting for a troubled debt settlement.

At December 31, 2012, Oscar Ltd owes Wilde Corp for a \$300,000 note payable, plus accrued interest of \$27,000. Oscar is now in financial difficulty and cannot repay Wilde. To settle the debt, Wilde agrees to accept from Oscar equipment with a fair value of \$285,000, an original cost of \$420,000, and accumulated depreciation to date of \$98,000.

**Instructions**

- (a) Calculate the gain or loss to Oscar on the settlement of the debt.
- (b) Calculate the gain or loss to Oscar on the transfer of the equipment.
- (c) Prepare the journal entry on Oscar's books to record the settlement of the debt.
- (d) Prepare the journal entry on Wilde's books to record the settlement of the receivable.

**Solution 14-68**

(a)	Note payable	\$300,000
	Interest payable	<u>27,000</u>
	Carrying value of debt	327,000
	Fair value of equipment	<u>285,000</u>
	Gain on settlement of debt	<u>\$ 42,000</u>
(b)	Cost	\$420,000
	Accumulated depreciation	<u>98,000</u>
	Book value	322,000
	Fair value of equipment	<u>285,000</u>
	Loss on disposal of equipment	<u>\$ 37,000</u>

(c)	Notes Payable.....	300,000	
	Interest Payable .....	27,000	
	Accumulated Depreciation.....	98,000	
	Loss on Disposal of Equipment.....	37,000	
	Equipment .....		420,000
	Gain on Settlement of Debt.....		42,000
(d)	Equipment.....	285,000	
	Loss on Settlement of Debt .....	42,000	
	Notes Receivable.....		300,000
	Interest Receivable .....		27,000

**Ex. 14-69**—Accounting procedures for bond redemptions.

Describe the accounting procedures for the early redemption of bonds.

**Solution 14-69**

At the time of redemption, any unamortized premium or discount and any applicable issue costs must be amortized up to the reacquisition date. The amount paid on early redemption, including any call premium and expense of reacquisition, is the reacquisition price. Any excess of the carrying value over the reacquisition price is a gain from redemption, while any excess of the reacquisition price over the carrying value is a loss from redemption.

**Ex. 14-70**—Accounting for a troubled debt restructuring.

On December 31, 2010, Beckham is in financial difficulty and cannot pay a \$700,000 note (with \$70,000 accrued interest payable) to Victoria. Victoria agrees to forgive the accrued interest, extend the maturity date to December 31, 2012, and reduce the interest rate to 4%. The present value of the restructured cash flows is \$599,000.

**Instructions**

Prepare entries for the following:

- (a) The restructure on Beckham's books.
- (b) The payment of interest on December 31, 2011.
- (c) The restructure on Victoria's books.

**Solution 14-70**

- (a) Old debt: PV = \$770,000  
 New debt: PV = \$599,000  
 The new debt differs by more than 10%:  $\$171,000/\$770,000 = 22.2\%$

Notes Payable (old) .....	700,000	
Interest Payable.....	70,000	
Notes Payable (new).....		599,000
Gain on Restructuring .....		171,000

- (b) Imputed interest rate using FV = \$700,000, PV = \$599,000, Payment = \$28,000 is 12.61%.

Interest Expense ( $\$599,000 \times 12.61\%$ ).....	75,534	
Cash .....		28,000
Notes Payable.....		47,534

- (c) Loss on Restructuring .....
- |                           |         |         |
|---------------------------|---------|---------|
| Notes Receivable .....    | 171,000 |         |
| Interest Receivable ..... |         | 101,000 |
|                           |         | 70,000  |

**Ex. 14-71**—Accounting for troubled debt.

- (a) What are the general rules for measuring and recognizing gain or loss by the debtor on a settlement of troubled debt, which includes the transfer of noncash assets?
- (b) What are the general rules for measuring and recognizing a gain and for recording future payments by the debtor in a troubled debt restructuring?

**Solution 14-71**

- (a) If the settlement of debt includes the transfer of noncash assets, a gain is measured by the debtor as the difference between the fair value of the assets transferred and the carrying amount of the debt, including accrued interest. The debtor also recognizes a gain or loss on the disposal of assets as the difference between the fair value of the assets transferred and their book value.
- (b) If the carrying amount of the payable is greater than the discounted total future cash flows, based on currently prevailing interest rates, the gain is measured as the difference between the carrying amount and the discounted future cash flows. The gain is separately classified in the income statement and the nature of the restructuring is disclosed if the amount of the gain is material. The same treatment is given if a loss results. Future payments are used to reduce the principal and record interest expense.

## PROBLEMS

**Pr. 14-72**—Bond interest and discount amortization.

On June 1, 2011, Bella Cooler Corp sold 10 year, \$500,000 (face value) bonds for \$438,800. The bonds have a stated interest rate of 8% and a yield rate of 10%, and pay interest annually on May 31 of each year. The bonds are to be accounted for using the effective interest method.

**Instructions**

- (a) Construct a bond amortization table for this bond to indicate the amount of interest expense and discount amortization at each May 31. Include only the first four years. Make sure all columns and rows are properly labelled, and round to the nearest dollar.
- (b) The sales price of \$438,800 was determined from present value tables. Explain how one would determine the price using present value tables, or by using a calculator.
- (c) Assuming that interest and discount amortization are recorded each May 31, prepare the adjusting entry at December 31, 2013 (fiscal year end). Round to the nearest dollar.

**Solution 14-72**

<u>Date</u>	<u>Credit Cash</u>	<u>Debit Interest Expense</u>	<u>Credit Bond Payable (Discount)</u>	<u>Carrying Amount of Bonds</u>
Jun 1/11				\$438,800
May 31/12	\$40,000	\$43,880	\$3,880	442,680
May 31/13	40,000	44,268	4,268	446,948
May 31/14	40,000	44,695	4,695	451,643
May 31/15	40,000	45,164	5,164	456,807

- (b) (1) Find the present value of \$500,000 due in 10 years at 10%.
- (2) Find the present value of 10 annual payments of \$40,000 at 10%.
- (3) Add (1) and (2) to obtain the present value of the principal and the interest payments.

Calculator: N 10 %I 5 PMT 40000 FV 500000 CPT PV

(c) Interest Expense.....	26,072*	
Interest Payable .....		23,333**
Bonds Payable.....		2,739

\*7/12 × \$44,695 (from Table) = \$26,072

\*\* 7/12 × 8% × \$500,000 = \$23,333

**Pr. 14-73**—Bond interest and discount amortization.

Maggio Corporation issued \$400,000 8% bonds on October 1, 2010, due on October 1, 2015. Interest is to be paid semi-annually on April 1 and October 1. The bonds were sold to yield 10% effective annual interest. Maggio Corporation has a calendar year end.

**Instructions**

- (a) Complete the following amortization schedule for the dates indicated. Round all answers to the nearest dollar. Use the effective interest method.

	<u>Credit Cash</u>	<u>Debit Interest Expense</u>	<u>Credit Bond Payable (Discount)</u>	<u>Carrying Amount of Bonds</u>
Oct 1/10				\$369,112
Apr 1/11				
Oct 1/11				

- (b) Prepare the adjusting entry required for these bonds at December 31, 2011.
- (c) Calculate the interest expense to be reported in the income statement for the year ended December 31, 2011.

**Solution 14-73**

- (a)

	<u>Credit Cash</u>	<u>Debit Interest Expense</u>	<u>Credit Bond Discount (Discount)</u>	<u>Carrying Amount of Bonds</u>
Oct 1/10				\$369,112
Apr 1/11	\$16,000	\$18,456	\$2,456	371,568
Oct 1/11	16,000	18,578	2,578	374,146

(b)	Interest Expense ( $\$374,146 \times 10\% \times 3/12$ ) .....	9,354	
	Interest Payable ( $1/2 \times \$16,000$ ).....		8,000
	Bonds Payable ( $\$9,354 - \$8,000$ ).....		1,354

(c)	\$ 9,228 (1/2 of \$18,456)
	18,578
	<u>9,354</u>
	<u>\$37,160</u>

Pr. 14-74—Entries for bonds payable.

**Instructions**

Prepare the necessary journal entries to record the following transactions relating to the long-term issuance of bonds by Georgian Bay Corp. Show calculations and round to the nearest dollar.

March 1

Issued \$200,000 (face value) 8% bonds for \$218,040, including accrued interest. Interest is payable semi-annually on December 1 and June 1 with the bonds maturing 10 years from the previous December 1. The bonds are callable at 102.

June 1

Paid semi-annual interest on the bonds. Use straight-line amortization of any premium or discount.

December 1

Paid semi-annual interest on the bonds, and then purchased \$100,000 face value bonds at the call price in accordance with the provisions of the bond indenture.

**Solution 14-74**

March 1:	Cash .....	218,040	
	Bonds Payable .....		214,040
	Interest Expense (\$200,000 × 8% × 3/12) .....		4,000
June 1:	Interest Expense .....	7,640	
	Bonds Payable (\$14,040 × 3/117) .....	360	
	Cash .....		8,000
Dec. 1:	Interest Expense .....	7,280	
	Bonds Payable (\$14,040 × 6/117) .....	720	
	Cash .....		8,000
	Bonds Payable * .....	106,480	
	Gain on Redemption of Bonds .....		4,480
	Cash .....		102,000

\* Premium is now  $1/2 \times (\$14,040 - \$360 - \$720) = \$6,480$ .

**Pr. 14-75**—Entries for bonds payable.

**Instructions**

Prepare journal entries to record the following transactions relating to long-term bonds of Leonardo Inc. Show calculations and round to the nearest dollar.

- (a) On June 1, 2011, Leonardo Inc. issued \$400,000, 6% bonds for \$391,760, including accrued interest. The bonds were dated February 1, 2011, and interest is payable semi-annually on February 1 and August 1 with the bonds maturing on February 1, 2021. The bonds are callable at 102.
- (b) On August 1, 2011, Leonardo paid the semi-annual interest and recorded the amortization of the discount or premium, using straight-line amortization.
- (c) On February 1, 2013, Leonardo paid the semi-annual interest and recorded amortization of the discount or premium.
- (d) The company then purchased \$240,000 of the bonds at the call price. Assume that a reversing entry was made on January 1, 2013 .

**Solution 14-75**

(a) Cash .....	391,760	
Bonds Payable .....		383,760
Interest Expense ( $\$400,000 \times 6\% \times 4/12$ ).....		8,000
(b) Interest Expense ( $\$400,000 \times 6\% \times 6/12$ ) + \$280.....	12,280	
Cash .....		12,000
Bonds Payable ( $\$16,240 \times 2/116$ ).....		280
(c) Interest Expense ( $\$12,000 + \$840$ ).....	12,840	
Cash .....		12,000
Bonds Payable ( $\$16,240 \times 6/116$ ).....		840
(d) Bonds Payable * .....	231,936	
Loss on Bond Redemption.....	12,864	
Cash .....		244,800

\* Discount is  $60\% \times (\$16,240 - \$2,800) = \$8,064$

**Pr. 14-76**—Accounting for a troubled debt settlement.

Kane Ltd., who owes Patrick Corp. \$300,000 in notes payable, is in financial difficulty. To eliminate the debt, Patrick agrees to accept from Kane land having a fair value of \$227,500 and a recorded cost of \$170,000.

**Instructions**

- (a) Calculate the amount of gain or loss to Kane on the transfer (disposition) of the land.
- (b) Calculate the amount of gain or loss to Kane on the settlement of the debt.
- (c) Prepare the journal entry on Kane's books to record the settlement of the debt.
- (d) Calculate the gain or loss to Patrick from settlement of the receivable from Kane.
- (e) Prepare the journal entry on Patrick's books to record the settlement of the receivable.

**Solution 14-76**

(a)	Fair value of land	\$227,500	
	Cost of land to Kane	<u>170,000</u>	
	Gain on disposition of land	<u>\$ 57,500</u>	
(b)	Carrying amount of debt	\$300,000	
	Fair value of land given	<u>227,500</u>	
	Gain on settlement of debt	<u>\$ 72,500</u>	
(c)	Notes Payable .....	300,000	
	Land.....		170,000
	Gain on Disposition of Land .....		57,500
	Gain on Settlement of Debt.....		72,500
(d)	Carrying amount of receivable	\$300,000	
	Land received in settlement	<u>227,500</u>	
	Loss on settlement of debt	<u>\$ 72,500</u>	
(e)	Land .....	227,500	
	Loss on Settlement of Debt.....	72,500	
	Notes Receivable.....		300,000



**Pr. 14-77**—Accounting for bond issuance and retirement.**Part A**

Twilight Corp. desired to raise cash to fund its expansion by issuing long-term bonds. The corporation hired an investment banker to manage the issue (best efforts underwriting) and also hired the services of a lawyer, an audit firm, etc. On June 1, 2011, Twilight sold \$500,000 in long-term bonds for net cash proceeds of \$426,000. The bonds will mature in 10 years and have a stated interest rate of 8%. Other bonds that Twilight has issued with identical terms are traded based on a market yield rate of 10%. The bonds pay interest semi-annually on May 31 and November 30. The bonds are to be accounted for using the effective interest method. Any issue costs are amortized on a straight-line basis. On June 1, 2013 Twilight decided to retire 20% of the bonds. At that time the bonds were selling at 101.

**Instructions** (Round all values to the nearest dollar)

- a) Prepare the journal entry for the issuance of the bonds on June 1, 2011.
- b) What was the interest expense related to these bonds that would be reported on Twilight's 2011 income statement?
- c) Prepare all entries from after the issue of the bond till December 31, 2011.
- d) Calculate the gain or loss on the partial retirement of the bonds on June 1, 2013.
- e) Prepare the journal entries to record the partial retirement on June 1, 2013.

**Part B**

Refer to the information in part A. Suppose that instead of issuing the bond for cash, Twilight issues the bonds to its lawyer in exchange for legal services to be provided over the next three years.

- a) Suggest a possible reason (or reasons) for that arrangement.
- b) What would change in the accounting treatment as a result? There is no need to provide all the entries, but you must provide a clear explanation.

**Solution 14-77**

Part A

Semi-annual stated rate	4%
Semi-annual market rate	5%
No. of periods	20
Face value	500,000
Bond proceeds	426,000
PV of interest payments	249,244
PV of principal	188,445
Bond sells for	437,689
Bond discount (500,000 – 437,689)	62,311
Bond issue costs (437,689 – 426,000)	11,689

a)

Cash	426,000	
Bond issue costs	11,689	
Bonds payable		437,689

b)

<u>Date</u>	<u>Credit</u> <u>Cash</u>	<u>Debit</u> <u>Interest</u> <u>Expense</u>	<u>Credit</u> <u>Bond Payable</u> <u>(Discount)</u>	<u>Carrying Value</u> <u>of Bonds</u>
Jun 1/11				437,689
Nov 30/11	20,000	21,884	1,884	439,573
May 31/12	20,000	21,979	1,979	441,552
Nov 30/12	20,000	22,078	2,078	443,630
May 31/13	20,000	22,181	2,181	445,811

Interest expense for 2011 = 21,884 + (1/6 x 21,979) = 25,548

**Solution 14-77 (cont'd)**

c)  
Nov 30/11

Interest expense	21,884	
Cash		20,000
Bonds payable		1,884

Dec 31/11

Interest expense	3,663	(1/6 x 21,979)
Interest payable		3,333 (1/6 x 20,000)
Bonds payable		330
Bond issue expense	682	(11,689/10 * 7/12)
Bond issue costs		682

d)  
Per the amortization table in part b), the carrying value of the bond as of May 31, 2013 is \$445,811. In addition, unamortized bond issue costs are \$9,351 (\$11,689 x 8/10). The amount paid for purchasing the bonds is 101,000 (500,000 x 1.01 x 20%)

Bond carrying value (\$445,811 * 20%)	\$ 89,162
Unamortized issue costs (\$9,351 * 20%)	<u>1,870</u>
Carrying value	\$ 87,292

Loss on bond redemption \$(13,708)

e)

Bonds payable	89,162	
Loss on bond redemption	13,708	
Bond issue costs		1,870
Cash		101,000

**Part B**

a)  
Twilight might choose to issue the bond directly to its lawyer to save the bond issue costs. When the bond issue is small like in this case, such costs can be relatively large. As well, the law firm can benefit from a contract that guarantees them a job for three years.

b)  
When the bonds are issued, Prepaid Expenses would be debited instead of cash. In each of the following three years, one-third of the amount would be expensed to income.

Pr. 14-78—Bond accounting, ratios, debt covenants.

Superior Equipment Corporation is a public company manufacturing high-precision equipment. On January 1, 2008, Superior issued a 12% \$10,000,000 bond, maturing in ten years. The bond had a carrying value of \$9,300,000 at January 1, 2011. Interest is payable semi-annually on June 30 and December 31. The company uses the straight-line method of amortizing any bond premium or discount.

The bond carries covenants that call for the firm’s debt to total assets ratio to be no higher than 50% and their times interest earned ratio to be at least 2.

You are the CEO of Superior. You have been on the job for a year after the previous CEO was fired for missing earnings targets. You are a McGill University grad with a major in Accounting.

Superior’s business is cyclical and the last two years have been tough. In recent months however, there have been signs of recovery in the industry, and many distributors have placed large orders for Superior’s equipment. Delivery of the equipment is expected in 2012 and 2013. You are under pressure from the Board of Directors to show improvement in the bottom line.

It is now November 30, 2011, and you have just met with the company’s CFO, Ms. Grimm. In preparation for the coming year end on December 31, 2011, she has prepared forecasted financial statements, but has not included the effects of the \$10,000,000 bond issue.

Below is a summary of those statements:

Income Statement

	\$
Sales	28,000,000
COGS	<u>20,000,000</u>
Gross profit	8,000,000
Operating expenses	<u>5,465,000</u>
Operating income before interest expense	2,535,000
Bond interest expense	<u>?</u>
Income before income tax	?
Income tax (35%)	<u>?</u>
Net income	<u>?</u>

Balance Sheet

Current assets	14,700,000
Non-current assets	<u>22,000,000</u>
Total assets	<u>36,700,000</u>
Current liabilities	9,000,000
Bonds payable	?
Shareholders’ equity	<u>?</u>
Total liabilities and equity	<u>36,700,000</u>

Additional information:

1. Except for the bond, the company did not incur any other interest expense.
2. The last time entries were recorded for the bond was at the end of the third quarter (September 30, 2011), when adjusting entries were prepared.

**Instructions**

- a) Prepare the journal entries related to the bond payable for the last quarter of 2011. The entries should reflect the payment of interest and related amortization of the premium or discount.
- b) Complete the forecasted financial statements for December 31, 2011 by including the effects of the bond payable.
- c) Using the financial statements from part b), calculate the times interest earned and debt to total assets ratios.
- d) Given your calculations in part c), is Superior forecasted to be in violation of the debt covenants? If yes, what action(s) would you recommend? Discuss the advantages/disadvantages of each recommendation.

**Solution 14-78**

a) The interest to be paid on December 31, 2011 is \$600,000 ( $\$10,000,000 \times 12\% \times 6/12$ ). Half of this is to be recorded as interest expense for this quarter. Amortization of the premium is \$100,000 per year, \$25,000 for the fourth quarter.

On September 30, 2011, at the end of the third quarter, the following entry would have been posted:

Interest expense	325,000	
Bond interest payable		300,000
Bond payable		25,000

On December 31, 2011, Superior should post the following entry:

Interest expense	325,000	
Bond interest payable		300,000
Cash		600,000
Bond payable		25,000

**Solution 14-78 (continued)**

b)

**Income Statement**

	\$
Sales	28,000,000
COGS	<u>20,000,000</u>
Gross profit	8,000,000
Operating expenses	<u>5,465,000</u>
Operating income before interest expense	2,535,000
Bond interest expense	<u>1,300,000<sup>1</sup></u>
Income before income tax	1,235,000
Income tax (35%)	<u>432,250<sup>2</sup></u>
Net Income	<u><u>802,750</u></u>

<sup>1</sup> Interest expense = (10,000,000 x 12%) + 100,000 = 1,300,000.

<sup>2</sup> Income tax = 1,235,000 x 35% = 432,250.

**Balance Sheet**

Current assets	14,100,000 <sup>3</sup>	
Non-current assets	<u>22,000,000</u>	
Total assets	<u>36,100,000</u>	
Current Liabilities	8,700,000	
Bonds payable	9,400,000 <sup>4</sup>	
Shareholders' equity	<u>18,000,000</u>	(plug number)
Total liabilities and equity	<u>36,100,000</u>	

<sup>1</sup> Interest expense = (10,000,000 x 12%) + 100,000 = 1,300,000.

<sup>2</sup> Income tax = 1,235,000 x 35% = 432,250.

<sup>3</sup> Current assets = 14,700,000 – 600,000 = 14,100,000.

<sup>4</sup> Bonds payable = carrying value Jan 1/11 + 2011 amortization = 9,300,000 + 100,000 = 9,400,000.

$$\text{c) Times Interest Earned} = \frac{\text{Income before income taxes and interest}}{\text{Interest Expense}} = \frac{2,535,000}{1,300,000} = \underline{1.95}$$

$$\text{Debt to Total Assets} = \frac{\text{Total debt}}{\text{Total assets}} = \frac{(8,700,000 + 9,400,000)}{36,100,000} = \frac{18,100,000}{36,100,000} = \underline{0.5014}$$

**Solution 14-78 (continued)**

d) The firm is forecasted to be in violation of the debt covenant. However, the ratios are very close to the minimum requirements. As CEO, you could recommend one of the following:

- a. Do nothing and run the risk of a default on the bond, or possibly run the risk of a negative stock-market reaction for being in violation of the covenants.
- b. Meet the creditors, present your case of expected economic recovery and ask them to wait one more quarter before acting or to waive the covenants for a short period.
- c. Renegotiate with the creditors.

The above options might be challenging given the need to convince many creditors and the possible market reaction.

- d. If these are callable bonds or they can be purchased on the open market, buy some of back to extinguish some of the debt, which will also reduce the related interest expense.
- e. Sell some operating assets that will yield a gain and use the proceeds to lower debt. For example, using the proceeds to pay your suppliers earlier may improve relations if a potential debt restructuring is to be negotiated.
- f. Apply earnings management techniques to increase earnings and total assets. For example, cut back on discretionary expenses such as advertising, repairs & maintenance, promotion, etc.

Option (d) might help to avoid the debt to total assets ratio violation, but might be too late to avoid interest expense and the violation of the times Interest earned ratio violation.